

# Information note on Regulation 12



## Sampling and analysis

When monitoring private supplies, local authorities must collect and analyse samples from specified points and using appropriate analytical systems. For each type of supply likely to be encountered (domestic, food-production, tanker and other situations), this Regulation describes a suitable sample point that must be used when taking samples for testing. (For sampling frequencies, including justification for reducing or ceasing sampling, see IN7.)

For domestic supplies, Regulation 12 describes the sample point as the tap normally used to supply water for human consumption. Where there is more than one potential sample point, the selected sample point must be representative of the water supplied to the premises and this is usually the kitchen tap. On larger supplies, the premises from which the sample is taken may be varied at each sample visit, and records kept of which premises have been selected. Any premises with a point of use treatment device should not be selected if this is unrepresentative of the supply as a whole.

When sampling a supply used in food production, the point at which it is used in the process of manufacture should be sampled.

Where a tanker is used (such as during alternative supply provision in an emergency), local authorities must collect a sample at the point it emerges from the tanker.

Two parameters – nitrate and turbidity – should be sampled as the water leaves the final part of the treatment process (if applicable).

Where the local authority encounters a situation that is not adequately described above then it should locate a suitable sample point where the water is representative of that being supplied to the premises.

Compliance samples for certain chemical parameters, in particular copper, lead and nickel, must be taken in the form of a random daytime sample of one litre volume taken from a consumer's tap without prior flushing. This is then representative of water that has been standing in contact with the internal domestic pipework. "Random daytime" means that the sample can be taken at any time in the day but it must be carried out without first flushing the tap. Samples taken for these parameters are first in the order of sampling where multiple parameters are required (see sampling manual at [www.dwi.gov.uk](http://www.dwi.gov.uk)). A random daytime sample is equivalent to what the consumer may consume at random through the day.

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Schedule 3 requires that the appropriate requirements (of the Regulations) are satisfied when taking, handling, transporting and storing each sample, and that samples must be taken by a person who is subject to a system of quality control to an appropriate standard checked from time to time by a suitably accredited body. The Inspectorate in its technical advisory role to local authorities is working with UKAS to develop an accredited method which will ensure that samplers of private water supplies are meeting this requirement through compliance with an ISO 17024 accredited scheme. During 2018 pilot trials will be taking place, involving individuals from local authorities who will be working with Certification Bodies to embed a workable system. The aim is to get all samplers certificated by the end of 2019. Until samplers have been formally certified, they are advised to follow the methodology prescribed in the Sampling Procedures Manual which is available at <http://www.dwi.gov.uk/private-water-supply/regs-guidance/Guidance/sampling/pws-sampling-procedures.pdf>

This forms the basis of the ISO accredited scheme and lays out the correct order of sampling, tap sterilisation, bottle filling methods and the necessary requirements for the adequate collection of samples. When collected, samples should be representative of the water being supplied to the property at the time of collection. It should not be contaminated in the course of being taken and it should be kept at a temperature and in a condition that will not cause erroneous results.

Following sample collection, local authorities must ensure that the sample is analysed as soon as reasonably practicable after it is taken using a system of analytical quality control that is subjected to independent audit by an independent person who is approved by the Secretary of State. In England and Wales this is UKAS, and their accreditation is covered by the DWTS scheme.

## **Sampling and analysis by persons other than local authorities**

Local authorities may wish to sub-contract out the collection of samples and analysis. This is permitted, provided the local authority is satisfied the person is competent, analysis is carried out in a timely fashion at an accredited laboratory, and any breach of water quality standards is communicated immediately to the local authority. Results of all samples taken for regulatory purposes by another party must be included in the local authority's annual data return to the Inspectorate.

## **Analysing samples**

Local authorities should pay due regard to the specified analytical performance criteria and methods. This is best dealt with by way of employing a laboratory that is fully accredited to the ISO 17025 Drinking Water Testing Specification which ensures that suitable methods are employed.

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Local authorities are encouraged to use electronic reporting tools offered by a number of laboratories for ease of completing the annual return.

The standard for odour and taste is that a sample must be 'acceptable to consumers and no abnormal change'. This implies a qualitative assessment for which a trueness and precision cannot apply. However, DWI requires water undertakers to carry out a quantitative assessment in which case the above trueness and precision values apply. Local authorities are advised to follow this practice. A quantitative assessment is where a small panel of assessors taste or smell the water and dilutions of the water and estimate the taste or odour as a dilution number. Local authorities should be aware of the health and safety risks of carrying out qualitative and quantitative odour and taste measurements (on site or in the laboratory), more so with the taste (rather than odour), because private water supplies could be contaminated with harmful microorganisms.

## Supplies in bottles or containers

If water is supplied in bottles and containers instead of, or to supplement, a private water supply, and it is not controlled under the Natural Mineral Water, Spring Water and Bottled Drinking Water (England) Regulations 2007, the water must be monitored for Group A and Group B parameters in accordance with the Private Water Supplies Regulations. Monitoring includes all the parameters required for Regulation 9 and 10 supplies with the addition of *Pseudomonas aeruginosa* as a Group A monitoring parameter. Frequency of bottled water Group A and Group B monitoring may be seen in Table 1 below.

**Table 1: Minimum frequencies for water put into bottles or containers not intended for sale**

Volume <sup>(1)</sup> of water produced in bottles or containers each day (m <sup>3</sup> )	Group A monitoring number of samples per year	Group B monitoring number of samples per year
≤10	1	1
>10≤ 60	12	1
>60	1 for each 5 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 5 m <sup>3</sup> /day)	1 for each 100 m <sup>3</sup> /day of the total volume (rounding up to the nearest multiple of 100 m <sup>3</sup> /day)

<sup>1</sup> The volumes are calculated as averages taken over a calendar year.